

What is claimed is:

1. A method of processing video data comprising:
receiving a sequence of video frames in an interlaced format;
detecting a 3-2 pulldown pattern; and
removing duplicate fields from the sequence of video frames.
2. The method of claim 1 further comprising:
passing instructions to a video encoder relating to the removed fields.
3. The method of claim 2 wherein the instructions relate to one or more flags in an MPEG-2 encoder.
4. The method of claim 3 wherein the one or more flags are selected from the group consisting of: picture_structure, progressive_frame, and repeat_first_field.
5. The method of claim 1 further comprising:
detecting a disrupted 3-2 pulldown pattern at an end of the sequence of video frames; and
leaving a duplicate field that is part of the disrupted 3-2 pulldown pattern.
6. The method of claim 5 further comprising marking frames left with a duplicate field as non-progressive.
7. The method of claim 1 wherein the step of detecting a 3-2 pulldown pattern comprises:
identifying a position within a buffer where the 3-2 pulldown pattern is likely to be found; and
determining whether a pattern located at the identified position is a legitimate 3-2 pulldown pattern.

8. The method of claim 7 wherein the step of identifying a position within a buffer comprises calculation of at least one field identity and at least one frame correlation.
9. The method of claim 8 wherein the at least one field identity is calculated as a sum of absolute difference between two fields from different frames having a common parity.
10. The method of claim 8 wherein the at least one field identity is calculated as a mean squared error between two fields from different frames having a common parity.
11. The method of claim 8 wherein the at least one frame correlation is calculated as a sum of absolute difference between an input field and an interpolated field of another input field having a different parity.
12. The method of claim 8 wherein the at least one frame correlation is calculated as a sum of squared error between an input field and an interpolated field of another input field having a different parity.
13. The method of claim 7 wherein the step of identifying a position within a buffer comprises calculation of one or more parameters selected from the group consisting of: first field identity, second field identity, self frame correlation, cross frame correlation, inverse cross frame correlation, and new scene score.
14. The method of claim 8 wherein the step of identifying a position within a buffer further comprises computing a plurality of metrics from the at least one field identity and at least one frame correlation.

15. The method of claim 14 wherein at least one of the plurality of metrics are selected from the group consisting of: first field identity ratio, second field identity ratio, left triangle score, right triangle score, cross frame correlation score, and double triangle score.
16. The method of claim 7 wherein the step of determining whether a pattern located at the identified position is a legitimate 3-2 pulldown pattern further comprises computing at least one metric selected from the group consisting of: frame correlation change, frame correlation ratio, cross frame correlation ratio, inverse cross frame correlation ratio, first field identity ratio 2, and second field identity ratio 2.
17. The method of claim 16 wherein the step of determining whether a pattern located at the identified position is a legitimate 3-2 pulldown pattern comprises analyzing the at least one metric and at least one additional parameter selected from the group consisting of: first field identity ratio and second field identity ratio of a second subsequent frame.
18. A computer readable medium having embodied thereon a program executable by a machine, the program being operable to perform a sequence of operations on video data, the sequence of operations comprising:
 - receiving a sequence of video frames in an interlaced format;
 - detecting a 3-2 pulldown pattern; and
 - removing duplicate fields from the sequence of video frames.
19. The computer readable medium of claim 18 wherein the sequence of operations further comprises:
 - passing instructions to a video encoder relating to the removed fields.

20. The computer readable medium of claim 18 wherein the sequence of operations further comprises:
 - detecting a disrupted 3-2 pulldown pattern at an end of the sequence of video frames; and
 - leaving a duplicate field that is part of the disrupted 3-2 pulldown pattern.
21. The computer readable medium of claim 18 wherein the operation of detecting a 3-2 pulldown pattern comprises:
 - identifying a position within a buffer where the 3-2 pulldown pattern is likely to be found; and
 - determining whether a pattern located at the identified position is a legitimate 3-2 pulldown pattern.
22. A method of processing video data comprising:
 - receiving a sequence of video frames in an interlaced format and storing the sequence of video frames in a buffer having a plurality of positions, each position in the buffer corresponding to a video frame;
 - identifying the position within the buffer where the 3-2 pulldown pattern is likely to be found;
 - determining whether a pattern located at the identified position is a legitimate 3-2 pulldown pattern; and
 - removing duplicate fields from the sequence of video frames.
23. The method of claim 22 further comprising:
 - passing instructions to a video encoder relating to the removed fields.
24. The method of claim 22 further comprising:
 - detecting a disrupted 3-2 pulldown pattern at an end of the sequence of video frames; and
 - leaving a duplicate field that is part of the disrupted 3-2 pulldown pattern.